



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,987	01/15/2004	Douglas P. Anderson	MIC-M100	8326
32566	7590	05/23/2006	EXAMINER	
PATENT LAW GROUP LLP			VAN ROY, TOD THOMAS	
2635 NORTH FIRST STREET			ART UNIT	
SUITE 223			PAPER NUMBER	
SAN JOSE, CA 95134			2828	

DATE MAILED: 05/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

HA

<b>Office Action Summary</b>	Application No. 10/759,987	Applicant(s) ANDERSON ET AL.	
	Examiner Tod T. Van Roy <i>rvr</i>	Art Unit 2828	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 April 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-79 is/are pending in the application.
- 4a) Of the above claim(s) 1-22,32-50,56-65,69,70,73,74,77 and 78 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 23-28,51-55,66 and 67 is/are allowed.
- 6) ☒ Claim(s) 29-31,68,72 and 76 is/are rejected.
- 7) ☒ Claim(s) 71,75 and 79 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>01/15/2004</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

Claims 1-22, 32-50, 56-65, 69-70, 73-74, and 77-78 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 04/20/2006.

### ***Claim Objections***

Claim 76 is objected to because of the following informalities:

Claim 76 is objected to as "...generate a control..." is believed to be more correctly stated "...generating a control...".

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 29-31 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Art Unit: 2828

Claims 29-31 are rejected as they are dependent claims that are drawn to an independent claim that has not been elected for examination. Therefore, the claims have not been enabled as they are drawn to a non-elected species.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 68, 72, and 76 are rejected under 35 U.S.C. 102(e) as being anticipated by Kimura (US 6496525).

With respect to claim 68, Kimura discloses an accelerator circuit for accelerating the turn-on operation of a laser diode, the laser diode being connected to a current driver circuit providing a bias current to the laser diode (fig.7 #6), a control circuit being connected to the current driver circuit (fig.7 #4, 5) for controlling the bias current in response to a command signal (fig.7 Vref) indicative of the desired bias current level and the commanded power of the laser diode and a feedback signal (fig.7 #Vivc) indicative of the laser output power level, the control circuit including a compensation capacitor (fig.7 #5) establishing the control loop bandwidth of the control circuit, the accelerator circuit comprising: a laser turn-on control circuit (fig.7 #8) coupled to receive

Art Unit: 2828

a first signal for turning on the laser diode (fig.7 ABC), the laser turn-on control circuit providing a control signal having a first state indicative of a first condition for turning on the laser diode (col.9 lines 52-60) and a second state indicative of a second condition (col.9 lines 61-67), and a current source (fig.9 no label) responsive to the control signal (on/off), for providing a boost current to the compensation capacitor of the control circuit (col.9 lines 52-60), wherein the laser turn-on control circuit provides the control signal having the first state for turning on the current source (col.9 lines 52-60), and the laser turn-on control circuit provides the control signal having the second state for turning off the current source (col.9 lines 61-67).

With respect to claim 72, Kimura discloses a laser driver circuit for driving a laser diode comprising: a current to voltage converter (fig.7 #2) for converting an output current of a photodiode into a feedback signal, the photodiode (fig.7 #1) monitoring the output power of the laser diode, a differential amplifier (fig.4 #11) coupled to receive the feedback voltage signal (fig.7  $V_{vc}$ ) and a command signal (fig.7  $V_{ref}$ ) indicative of a predetermined bias current level for driving the laser diode to a command power level, the differential amplifier providing an output signal indicative of the difference between the feedback signal and the command signal (cols.5-6 lines 40-10), the differential amplifier including a compensation capacitor (fig.7 #5) for determining a control loop bandwidth of the laser driver circuit, a current driver circuit providing a bias current to the laser diode (fig.7 #6) corresponding to the output signal from the differential amplifier (through  $V_h$ ), and a turn-on accelerator circuit (fig.7 #8) comprising: a laser turn-on control circuit (fig.7 #8) coupled to receive a first signal for turning on the laser

Art Unit: 2828

diode (fig.7 ABC), the laser turn-on control circuit providing a control signal having a first state indicative of a first condition for turning on the laser diode (col.9 lines 52-60) and a second state indicative of a second condition (col.9 lines 61-67), and a current source (fig.9 no label), responsive to the control signal (on/off), for providing a boost current to the compensation capacitor of the differential amplifier (col.9 lines 52-60), wherein the laser turn-on control circuit provides the control signal having the first state for turning on the current source (col.9 lines 52-60), and the laser turn-on control circuit provides the control signal having the second state for turning off the current source (col.9 lines 61-67).

With respect to claim 76, Kimura discloses a method for turning on a laser diode, the laser diode being controlled by a control loop including a compensation capacitor (fig.7 #5) for establishing the bandwidth of the control loop, the method comprising: receiving a first signal (fig.7 ABC) having a first state for turning on the laser diode and a second state for turning off the laser diode (col.10 lines 28-30), generating a control signal responsive to the first signal (col.9 lines 52-67), the control signal having a first state indicative of a first condition for turning on the laser diode (col.9 lines 52-60) and a second state indicative of a second condition (col.9 lines 61-67), providing a current to the compensation capacitor when the control signal is in the first state (col.9 lines 52-60), and terminating the current to the compensation capacitor when the control signal is in the second state (col.9 lines 61-67).

***Allowable Subject Matter***

Claims 23-28, 51-55, and 66-67 are allowed.

Claims 71, 75, and 79 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Claims 23, 51, 71 and 75 are believed to be allowable as each of these claims describes the use of a logic circuit receiving specific signals and generating a control signal used by the current source. Kimura teaches many different control and driving signals, as well as the use of basic logic circuits (fig.13), but does not teach the proper signals being inputted to the logic circuit, or the output of the logic circuit to be used as is described in the claim limitation. It is believed to be non-obvious to insert logic circuits into the system with the specific inputs and likewise an output controlling explicit circuit components.

Claims 24-28, and 52-55 are allowable as they depend from allowable claims 23 and 51.

Claims 66 and 79 are believed to be allowable as each of these claims describes methods of operating the laser driving circuit by use of multiple signals, each having at least two states. While Kimura teaches similar signals and corresponding states, the combination of the signals and their designated function (please see reason for allowance of claims 23, 51, 71 and 75 above) described in the claim limitations is not

Art Unit: 2828

taught, nor is it believed to be obvious to combine the various existing signals of Kimura in a way that would meet the claim limitations.

Claim 67 is allowable as it depends from allowable claim 66.

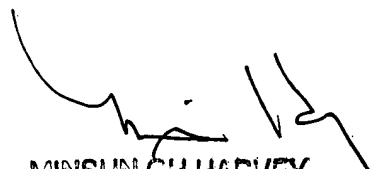
### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tod T. Van Roy whose telephone number is (571)272-8447. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minsun Harvey can be reached on (571)272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TVR

  
MINSUN CH HARVEY  
PRIMARY EXAMINER